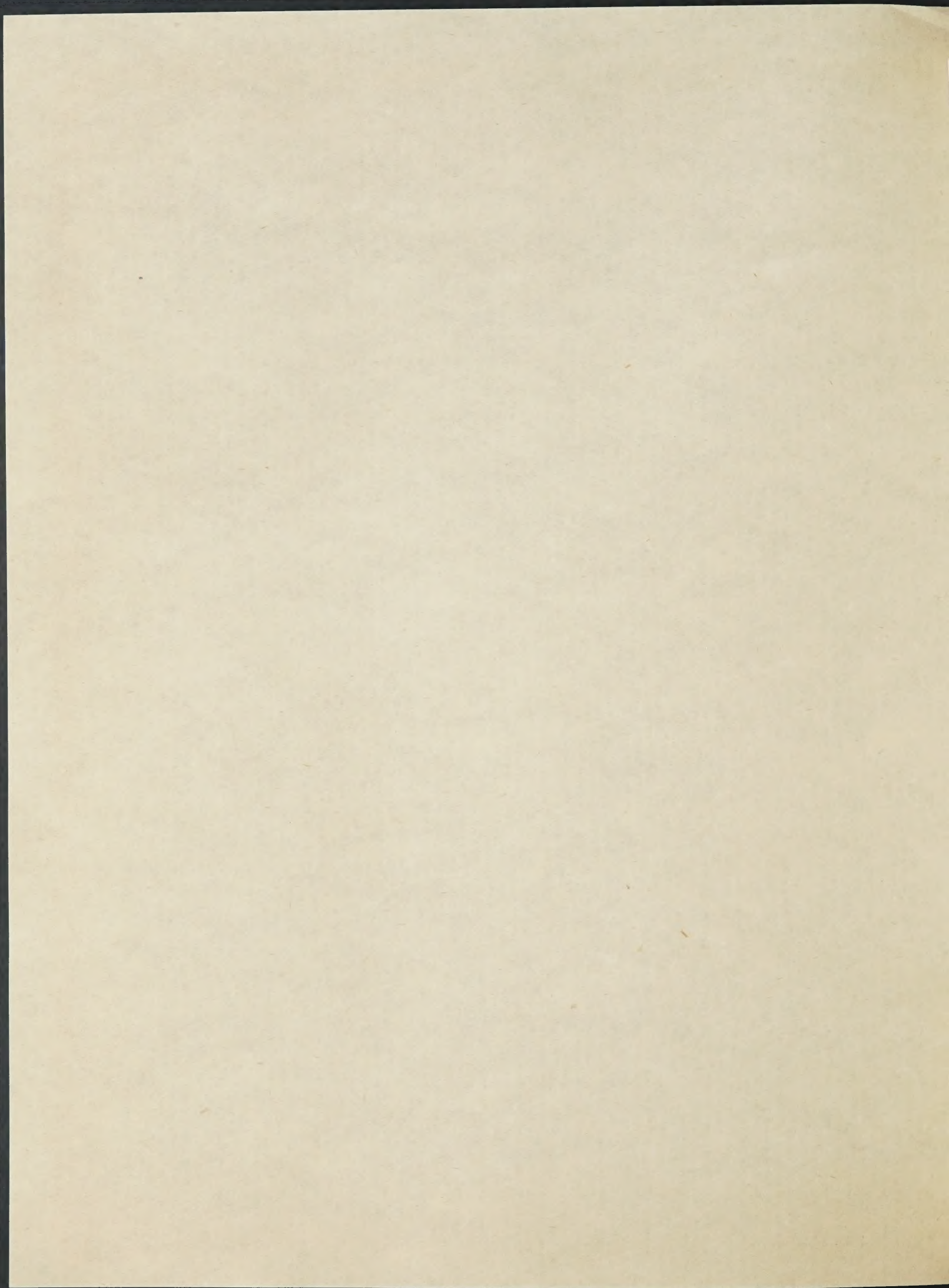


Robertson, T

Brailsford

Nov. 1917 - May 1918

(45)



Board

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UNIVERSITY OF CALIFORNIA
DEPARTMENT OF BIOCHEMISTRY AND PHARMACOLOGY
RUDOLPH SPRECKELS PHYSIOLOGICAL LABORATORY

BERKELEY November 8th, 1917.

Dr. J. S. Fitzgerald,
Univ. of Toronto,
Toronto, Canada.

Dear Doctor Fitzgerald:-

Thank you for your letter of 29th October. I was not coming East this winter for any other purpose, but glad indeed to come to Toronto, as President Fallowell, for the purpose of delivering a public lecture. I am, subject to my being able to obtain leave of absence for that purpose. I have no reason for supposing there would be any difficulty in obtaining it. In the event of the necessary arrangements being made, I am glad to know what type of lecture would be considered either popular or technical, and connected with my subjects of investigation or of a more general character.

With kindest regards

I am

Yours very sincerely,

T. Bransford Robertson

TER/H

*See also subject file
Robertson, T Bransford
1917-18
made by R.A. Fallowell*

Robertson, T Bransford

Nov 1917 - May 1918

Board

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UNIVERSITY OF CALIFORNIA
DEPARTMENT OF BIOCHEMISTRY AND PHARMACOLOGY
RUDOLPH SPRECKELS PHYSIOLOGICAL LABORATORY

BERKELEY November 8th, 1917.

Dr. J. S. Fitzgerald,
Univ. of Toronto,
Toronto, Canada.

Dear Doctor Fitzgerald:-

Thank you for your letter of 29th October. I was not contemplating coming East this winter for any other purpose, but I will be very glad indeed to come to Toronto, as President Falconer suggests, for the purpose of delivering a public lecture. This is, of course, subject to my being able to obtain leave of absence from here for that purpose. I have no reason for supposing that there would be any difficulty in obtaining it.

In event of the necessary arrangements being made, I would be glad to know what type of lecture would be considered preferable, whether popular or technical, and connected with my own special subjects of investigation or of a more general character.

With kindest regards

I am

Yours very sincerely,

T. Braniff Robertson

TER/H

November 23rd, 1917

Professor T. Brailsford Robertson,
University of California.

Dear Professor Robertson:

Professor Fitzgerald has handed me your letter of November 8th in which you say that you will endeavour to come to Toronto for the purpose of delivering a public lecture and for looking over our situation in the Department of Biochemistry, provided you can obtain leave of absence from the University of California. I strongly hope that you will be able to come to us even if it is only for a day, and we shall be glad to have you any time in the year, but naturally we should like you to come as soon after the New Year as possible so that we may take steps to arrange for the filling of the chair.

I have asked the Governors to set aside \$250.00 which I hope would cover your expenses and allow you something for a lecture. If this is not sufficient, please let me know? I may assure you that we will be delighted to see you.

Yours sincerely,

President.

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UNIVERSITY OF CALIFORNIA
DEPARTMENT OF BIOCHEMISTRY AND PHARMACOLOGY
RUDOLPH SPRECKELS PHYSIOLOGICAL LABORATORY

1st December 1917
BERKELEY

President R.W.Falconer
University of Toronto

Dear President Falconer,

I have to thank you for your letter of November 23rd, and I shall be very glad indeed to come to Toronto for the purpose of delivering a lecture and looking over the situation.

I am wondering whether January 10th (tenth) would be a convenient date for the lecture? If it is not, I would be glad if you would let me know by telegraph. I would leave here on January third and return just in time to resume my teaching duties at the opening of the Spring Semester, allowing myself about three days in Toronto. In case the tenth is too early, however, I will be able to obtain the necessary leave of absence at some other time.

The sum of \$250.00 will, as you say, be sufficient to cover the expenses.

I am

Yours sincerely,

T. Braithford Robertson

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December 7th, 1917

Professor T. Brailsford Robertson,
University of California, Berkeley.

Dear Professor Robertson:

I am very much pleased that you are
able to come and give us a lecture on January 10th. If you prefer
January 11th that day also would suit us equally well. Probably
we will have it given in the Medical Building at five o'clock in the
afternoon. All of my committee who are interested in this Depart-
ment are particularly pleased that you are able to come.

Yours sincerely,

President.

CLASS OF SERVICE		SYMBOL
Day Message		Nite
Night Message		N L
Night Letter		

If neither of these two symbols appears after the check (number of words) this is a day message. Otherwise its character is indicated by the symbol appearing after the check.



GREAT NORTH WESTERN TELEGRAM

CLASS OF SERVICE		SYMBOL
Day Message		Nite
Night Message		N L
Night Letter		

If neither of these two symbols appears after the check (number of words) this is a day message. Otherwise its character is indicated by the symbol appearing after the check.

Z.A.LASH., PRESIDENT

HEAD OFFICE, TORONTO, ONT.

GEO. D. PERRY, GENERAL MANAGER

RECEIVED AT Main Office, Scott and Wellington Streets, Toronto, Ont. Telephone Adelaide 5300

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BERKELEY CAL 3

PRINCIPAL SIR ROBERT SALCONER

TORONTO UNIVERSITY TORONTO CAN

WILL ARRIVE TORONTO EIGHT LEAVE TWELFTH

ROBERTSON.

1918 JAN 4 AM 2
1917

March 15th, 1918

Professor T. Pringle Robertson,
2619 Regent Street,
Berkeley, California.

My dear Professor Robertson:

I promised to let you know not later than March 15 as to the decision with regard to the Chair of Biochemistry, and I hope you will get my telegram this afternoon announcing to you the offer of the chair. We have considered the matter carefully, and in extending this offer to you I may assure you that those who will be your colleagues on the staff, if you accept as we hope you will, join with me in giving you this invitation very cordially.

The Board of Governors yesterday gave me authority to proceed on the basis of the items that you laid down. They are as follows: Professor \$5000; Assistant Professor \$2500; two fellows at \$500; Demonstrator \$750; Senior Technician \$1500; Laboratory Assistant Lowndes or substitute, \$650; Ciddens \$650; Secretary and Stenographer \$720, Expenses \$2000.

You spoke to me about the possibility of securing travelling expenses for yourself and those who come with you. This is a principle that the Board has never adopted and it might be somewhat difficult for us to comply with it fully, but the Board recognises that moving from California to Toronto is a long and very expensive journey. I wonder, however, whether you will think it equitable if they

were to make a grant of six hundred dollars towards the expenses in connection with moving. Will you let me have your frank opinion on this matter ?

The next meeting of the Board is to be on the 28th of March. I suppose that I cannot get an answer from you before that time.

The salaries would begin with the commencement of the academic year on the first of July.

You will be glad to know that Professor Macleod is also coming to us and we are anticipating a great future for the Faculty of Medicine by the addition of yourself and him to the staff.

With kind regards, I am,

Yours sincerely,

President.

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as are available. Therefore, looking over the data, I am
able to make a rough estimate of the total number of cases in 1907.
The total number of cases in 1907 was about 100. To know
the number of cases in 1908, I am in the position of not
knowing. I am in the position of not knowing.
I am in the position of not knowing.

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UNIVERSITY OF CALIFORNIA
DEPARTMENT OF BIOCHEMISTRY AND PHARMACOLOGY
RUDOLPH SPRECKELS PHYSIOLOGICAL LABORATORY

BERKELEY April 1, 1918.

President Sir Robert Falconer,
President's Office,
University of Toronto,
Toronto, Ontario, Canada.

Dear President Falconer:-

I am in receipt of your telegram notifying me that the Board of Governors will place eight hundred dollars at my disposal for the traveling expenses of Wasteneys, Ray and myself, that they have agreed to purchase the equipment which I mentioned in my last letter and that the appointments of myself, Wasteneys and Ray have been ratified.

I very deeply appreciate their liberality and I look forward with very pleasurable anticipation to my forthcoming years of association with the University of Toronto.

The equipment will be shipped by freight at intervals between now and my departure from here. I will address the shipments to
"The Department of Biochemistry,
University of Toronto".

Dr. Wasteneys and I are already planning the courses which we will offer and we are wondering whether some slight modifications of the announcement of courses as contained in the "Calendar" for 1917-18 will be feasible, and if so whether I should submit our proposals before my arrival towards the end of June or whether there will be time for me to discuss them with my colleagues in person before submitting them for approval.

Thanking you for your kindness in notifying me so promptly of the actions of the Board of Governors, and again expressing my appreciation of the confidence they have extended to me and which I will do my best to justify,

I am

Yours very sincerely,

T. Brinkford Robertson

TBR/H

Rec'd

UNIVERSITY OF CALIFORNIA
DEPARTMENT OF BIOCHEMISTRY AND PHARMACOLOGY
RUDOLPH SPRECKELS PHYSIOLOGICAL LABORATORY

BERKELEY April 27, 1918.

President Sir Robert Falconer,
President's Office,
University of Toronto,
Toronto, Ontario, Canada.

Dear President Falconer:-

I beg to recommend the following appointments to the staff
of the Department of Biochemistry:

Miss Jean Fergusson, whose address is Edgehill, Windsor, No-
via Scotia, to be appointed Secretary for two months (July and August)
at \$60.00 per month. This temporary appointment, I should explain, is
to ensure my having a competent and responsible person on hand during
the trying period of "moving in". During these two months I will have
time to look about me and discover a suitable person in Toronto to as-
sume the duties for the remainder of the year.

Miss A. Muldrew and Mr. C. P. Lathrop to be appointed Fellows
in Biochemistry for the whole academic year. Dr. Hunter, at my request,
kindly furnished me with these names and his recommendation. I do not
know their addresses, but Dr. Hunter will doubtless be able to furnish
them if they are not already among your records.

I am

Yours very sincerely,

T. Braithford Robertson

TBR/H

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UNIVERSITY OF CALIFORNIA
DEPARTMENT OF BIOCHEMISTRY AND PHARMACOLOGY
RUDOLPH SPRECKELS PHYSIOLOGICAL LABORATORY

BERKELEY May 13, 1918.

Dear President Falconer:-

I beg to recommend the appointment of Mrs. G.E.K. Branch whose address is 10105 MacDonald Drive, Edmonton, Alberta, as Demonstrator in Biochemistry at \$62.50 per month (\$750 per annum), the appointment to date from 1st July of this year. Mrs. Branch is a B.Sc. of the University of Liverpool and M.A. of the University of California. She has held the position of Teaching Fellow in Organic Chemistry in this University during the past year. She is a highly qualified organic and biological chemist and I think we are very fortunate in being able to secure her services. Her husband, also an organic chemist and a member of this University Faculty, is at present serving in the Canadian Army.

In regard to the position of Secretary to the department of Biochemistry. I will of course not proceed further in the matter until I have been able to talk it over, as you suggest, with Professor Macleod, but I regret to say that, assuming the position to be definitely vacant, I had already offered the permanent appointment for next year (1919-20) to Miss Fergusson. The reason that I did not offer it for this year was that she is unable to leave the teaching position which she holds at Edgehill until the end of the next teaching year and is therefore, so far as this year is concerned, only able to accept the appointment for the two months. I was very glad to agree to this arrangement nowever, because it will tide me over a difficult period.

I do not think that in the long run it will be very practicable to divide the services of my secretary with another department because her duties will be of an exceptional and exacting kind calling for very unusual qualifications. My investigations on Growth are of a statistical character and involve no less than twenty thousand weighings of mice per annum. These weighings to the average number of about seventy are made daily, and every day the results have to be grouped in classes and averaged and treated statistically i.e. the mean-square deviation, probable error of the average etc. have to be computed for each experimental group weighed upon that day. This work takes about two hours daily and while it requires but little mathematical knowledge, it does require ability to operate a calculating machine and above all exceedingly scrupulous exactitude and absolute reliability. I have hitherto attempted to do this work myself, but I can no longer do that and maintain efficiency in the more normal avenues of academic activity. In fact I am at present about thirty thousand weighings behindhand in my computations.

The only available person of whom I know who possesses the necessary qualifications of education and excessive conscientiousness is Miss Fergusson. She is at present in receipt of a much higher salary than we can give her, but she is interested in this type of work and tired of teaching and hence is willing to accept the position. She is familiar with bookkeeping and will therefore be able to keep the laboratory accounts in good order. She is able to typewrite but is not an expert stenographer, although with her general ability I trust that she will soon become one. You will understand from this explanation how difficult it would be to divide her time with another department, at least in so far as secretarial duties are concerned; of course it might be quite possible for her to take over a fair proportion (i.e. estimated to be one-half) of the library work, leaving Mrs. MacFarlane free to devote a larger proportion of her time to the department of Physiology.

Or if this is not practicable some temporary arrangement may be possible this year to be succeeded by the permanent arrangement next year. As I can only secure

President Falconer - 2.

Miss Fergusson for two months this year I had thought with her assistance to concentrate on statistical work in that time bringing our computations up to date, and for the rest of this year to content myself with an ordinary stenographer, allowing the statistical work to accumulate for Miss Fergusson to do next year. As I am under contract to deliver the M.S. of a book of about 700 pages to a publisher by July 1st 1919 I will have unusual need for the services of a stenographer during the remaining ten months of the year.

Professor Macleod and I will probably be able to hit upon a solution of the problem in consultation together, but I thought it well to lay the exact situation before you.

I am

Yours sincerely,

A handwritten signature in cursive script, appearing to read "T. Brainerd Robertson".

President Sir Robert Falconer,
President's Office,
University of Toronto,
Toronto, Ont., Canada.

REV. J. H. H. H.

REVEREND FATHER, BOSTON, MASS.

DEAR FATHER, I AM VERY GLAD TO HEAR

THAT YOU ARE WELL.

Yours very truly,

J. H. H. H.

THE REV. FATHER, BOSTON, MASS.

DEAR FATHER, I AM VERY GLAD TO HEAR

THAT YOU ARE WELL.

Yours very truly,

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THE UTILIZATION OF PATENTS FOR
THE PROMOTION OF RESEARCH

T. BRAILSFORD ROBERTSON

[Reprint from the UNIVERSITY OF CALIFORNIA CHRONICLE, Vol. XIX, No. 4]

THE UTILIZATION OF PATENTS FOR THE PROMOTION OF RESEARCH

On September seventh of the current year an agreement was executed between Dr. T. Brailsford Robertson, Professor of Biochemistry and Pharmacology, and the Regents of the University of California, whereby the ownership of his patents covering the growth-influencing substance "Tethelin" which he has isolated from the Anterior Lobe of the Pituitary Body, and which, among other possible applications to therapy, promises to be of value in accelerating the repair of slowly-healing wounds, was transferred to the University of California, upon the condition that the proceeds or profits which might accrue from its ownership of these rights should be devoted to the furtherance of medical research, such research to be conducted under the immediate direction of a board of directors constituted in the first instance of the undersigned individuals.

The proposal thus advanced by Professor Robertson and accepted by the Regents of the University of California constitutes, we believe, a new development in the relationship of science to the industries, and of scientific investigators to the institutions employing them, and we believe that, as such, it should receive the serious consideration of the scientific public, entirely apart from the separate question of the possible merits of this particular invention.

The growing recognition of the intimate dependence of the industries upon science and the increasing complexity and requirements of scientific research itself, have led many

to the belief that some modification is desirable of the traditional relationship between the investigator and the material product of his discoveries. In the initiation of such changes, of which the present proposal is one among a number which might be suggested, many serious problems present themselves, and we feel that the solution suggested by Professor Robertson should be subjected to careful scrutiny and the fullest possible criticism. We have accordingly requested Professor Robertson to publish a statement of the fundamental conceptions underlying his proposal, together with the text of the agreement itself.

(Signed)

- H. M. EVANS (Professor of Anatomy)
- F. P. GAY (Professor of Pathology)
- T. BRAILSFORD ROBERTSON (Professor of Biochemistry and Pharmacology)
- C. L. A. SCHMIDT (Research Assistant in Pathology)
- G. H. WHIPPLE (Director of the Hooper Foundation for Medical Research and Professor of Research Medicine).

PROFESSOR ROBERTSON'S STATEMENT

At the present time, as in the historic past, the scientific investigator looks to public or private generosity to supply him with the means of subsistence and the material prerequisites of his work. This relationship of the investigator to the public, while it has been unquestionably fruitful, is nevertheless fraught with many and serious disadvantages. To enumerate but a few of the more salient of these, the investigator is placed in a relationship of direct or indirect dependence upon his patron, a relationship which is not conducive to the best and most complete mutual understanding and appreciation. The income proceeding from these haphazard sources is of variable and unpredictable magnitude, and bears no necessary relationship whatever to the development of our material environment and the concur-

rent increase in complexity and proliferation in detail of scientific problems. The donors to a greater or less extent modify by their imperfectly informed preferences the channels of expenditure, so that the resources available for the development of any particular field of research are frequently disproportionate to its intrinsic importance.

It is obvious that a much more desirable condition of affairs might be attained if some automatic mechanism could be devised whereby a proportion (and a very small proportion would be sufficient) of the values created by scientific investigation would flow back to provide the material foundations of further discoveries, just as, at the present time, the intellectual foundations of fresh discoveries are automatically afforded by the information flowing in from the discoveries of the past.

A number of separate attempts to achieve this end have already been made, but while the results achieved have frequently been admirable in themselves, they have hitherto failed to afford any precedent which is generally acceptable to scientific men or to the institutions employing them. In some cases individuals have set aside a proportion of the proceeds from their inventions for the support of isolated scientific enterprises, the Solvay Institute in Brussels being a noteworthy instance of this type. In others an institution or an individual affiliated with the institution has entered the commercial field, selling certain articles manufactured in the laboratory, the proceeds from the sales being devoted to the upbuilding of the institution. Illustrious examples of this method of procedure have been afforded by Behring and by Pawlow. The objection to this method lies in the fact that the efforts and attention of the individuals concerned are to a greater or less extent and more or less permanently deflected from their proper business of investigation and that certain dangers and abuses might conceivably arise from the too close identification of the individual and the laboratory in which he works with purely business enterprise.

In other instances, of which Ehrlich's disposal of the proceeds from Salvarsan affords the most illustrious example, the discoverer has patented his invention, leased the patents to manufacturers, and dedicated the proceeds to the furtherance of a particular field of research, usually closely allied to the field from which the patented discovery arose. While the result of this procedure in the particular example chosen to illustrate it was in the highest degree successful, and the work accomplished by this means has been of incalculable value to humanity, yet, as a precedent, it has been felt by many that it presents several imperfections, notably that afforded by the association of an individual investigator with a particular business enterprise and the absence of any supervisory control over the commercial exploitation of the discovery.

The industrial fellowships which in recent years have been established in many institutions in the United States and particularly in affiliation with the Mellon Institute of Pittsburgh, represent another stage in the evolution of the relationship between the sciences and the industries. The industrial fellowship plan has proved to be far more widely acceptable as a precedent than any of the plans which I have heretofore mentioned. It is, however, more especially designed to be of direct service to existing industries, to bridge the gap between pure science and industrial progress and to meet the immediate needs of existing industries as they arise rather than to initiate new developments of science itself. Their purpose diverges, therefore, from that of the purely scientific investigator, and while they are of unquestionable value in the field for which they are designed, they leave unsolved the problem of providing automatic support for the development of the deeper foundations of industrial and social evolution.

A plan of wider scope, and applicable to the support either of the pure sciences or of industrial research was launched some years ago by my former colleague, Dr. F. G. Cottrell, in the form of the Research Corporation of New

York¹ to which he donated certain of his patent rights in his electrical precipitation process. The certificate of incorporation of this company declares that its purposes are:

(a) To receive by gift and to acquire by purchase or otherwise, inventions, patent rights and letters patent either of the United States or foreign countries and to hold, manage, use, develop, manufacture, install and operate the same, and to conduct commercial operations under or in connection with the development of such inventions, patent rights and letters patent and to sell, license or otherwise dispose of same and to collect royalties thereon, and to experiment with and test the validity and value thereof and to render the same more available and effective in the useful arts and manufactures and for scientific purposes and otherwise.

(b) To provide means for the advancement and extension of technical and scientific investigation, research and experimentation by contributing the net earnings of the corporation, over and above such sums as may be reserved or retained and held as an endowment fund or working capital and also such other moneys and property belonging to the corporation as the board of directors shall from time to time deem proper, to the Smithsonian Institute and such other scientific and educational institutions and societies as the board of directors may from time to time select in order to enable such institutions and societies to conduct such investigation, research and experimentation.

The efficient business administration which is thus provided and the separation of the scientific laboratories or investigators from responsibility for the administration of the funds and exploitation of the inventions combine to render the research corporation in many respects an ideal means of accomplishing the ends we have in view. It is impossible, however, for purely physical reasons, for the Research Corporation to handle all of the vast variety of profitable inventions, great and small, which issue or may come to issue from the laboratories of the United States, and it would obviously not be in the best interests of research to centralize too greatly the control of the means

¹ "The Research Corporation: An Experiment in Public Administration of Patent Rights," Eighth International Congress of Applied Chemistry, New York Meeting, October, 1912, vol 24, p. 59.

of its continuance and development. Some system is required which, like the industrial fellowship system, is indefinitely reproducible, and adaptable to all of the great variety of learned institutions which might desire to utilize it, so that the system may become an organic part of the investigator's environment and numerous foci come into existence from which the means for the furtherance of investigation may proceed. It was to provide a possible solution of this problem and a precedent which might be acceptable to other investigators and other institutions that the subjoined agreement between the Regents of the University of California and myself was drafted.

There are highly profitable discoveries, of course, which are of such a nature as to demand expensive field-trials, or the expenditure of capital to ensure their successful flotation and protection during the period of tentative utilization. The plan which I have to propose is not designed to deal with inventions of this type, but rather with the equally numerous inventions which are complete in themselves and ready to be leased or sold to existing commercial establishments. Public institutions, holding their funds in trust, cannot, of course, enter into speculative enterprises. For dealing with discoveries requiring extensive initial expenditure and the flotation of new commercial enterprises to handle them, the research corporation, and analogous corporations which may come to be founded for a like purpose, provide an acceptable means of ensuring the adequate development of the invention and the return of the proceeds to the support of scientific investigation.

The fundamental administrative basis of the agreement which has been concluded between the Regents of the University of California and myself consists in the provision for as complete a separation as is consonant with stability of the responsibility for the business administration of the trust and that for the actual performance of investigations financed from the proceeds of the trust. The successful scientific investigator is usually, for the simple reason of

his success as an investigator, a very indifferent financier. The professional administrator or financier, whose interests and information are far removed from the battle-front of the conquest of nature, and whose preoccupation is rather the consolidation of conquests previously achieved, is usually a very indifferent director of scientific investigation. The truth of the former of these propositions will be admitted on every hand; that of the latter is not so generally recognized. It is, however, very clearly evidenced in many contemporary scientific enterprises which, under the too exclusive guidance of professional administrators, are comparatively inefficient in production of results of the highest intrinsic value, while the most successful scientific enterprises of our day are those which are being administered, so far as actual investigation is concerned, by men who are themselves practical investigators of distinction.

In the terms of the agreement it is provided that sole responsibility for every phase of the business administration of the patents and of the proceeds accruing therefrom rests with the Regents of the University of California, while the proximate responsibility for the performance of investigations which may be financed by these proceeds rests with the board of scientific directors, under whose immediate direction, subject to the supervisory control of the Regents of the University, all researches must be carried out. It is furthermore provided, in order to ensure that the personnel of the board shall consist exclusively of men in living touch with contemporary scientific problems, that the directors shall be persons themselves engaged directly and primarily in research work, and upon ceasing to be so engaged they shall be under obligation to resign as such directors, and if they do not resign, their positions shall be declared vacant by the Regents of the University. It is furthermore provided that the position of any director shall become vacant upon his attaining the age of sixty years, unless the Regents of the University shall, for strong reason existing in the particular case, extend his term of office.

The conquest of nature, which is the material preoccupation of the scientific investigator, is not unlike a military campaign, in that those who retire from immediate contact with operations speedily lose the instincts which underlie and determine practical success. The scientific investigator who ceases to pursue active investigation and turns to administrative or other pursuits, sooner or later loses the intuitions which formerly led him to detect the weak spots in the defense which nature opposes to our inquiry, and that grasp of the field of investigation as a whole which actual contact keeps alive.

A true estimate of any professional man can only be formed by his professional colleagues, and it is therefore provided that any vacancies in the board of directors must be filled on nomination of the remaining members. Such nominees, however, must be approved by the Regents of the University, and responsibility for the personnel of the board is thus shared in the fullest possible measure between the members of the board itself and the Regents of the University. This provision, and the preceding provisions, are designed to obviate the notorious defects attaching to self-perpetuating boards, while introducing a sufficient element of self-perpetuation to ensure the perpetuation of the essential character of the present board.

There is a very prevalent misunderstanding, even among scientific men, of the true function of the protection extended by patents. While they are designed among other things to ensure a monetary return to the discoverer by granting him a temporary monopoly of his discovery, yet this is only one and not by any means the most successful feature of their purpose. As summarized by Dr. F. G. Cottrell the basic reasons for granting patents are the following:²

Firstly, to substitute a definite and regulated form of monopoly under the law for the broader and entirely unregulated one which the patentee might otherwise secure by retaining his secret.

² "Government Owned Patents," Proceedings of the American Mining Congress, Nineteenth Annual Session, Chicago, Illinois, November 13-16, 1916.

Secondly, to encourage and stimulate invention.

Thirdly, to give adequate opportunity and encouragement for intensive commercial development of the invention which is almost invariably necessary to make it generally available on its own merits to the ultimate consumer.

Among medical investigators a very definite prejudice exists against the patenting of any medical discoveries, and this view is to some extent shared by not a few investigators in other fields. The fundamental instinct which leads to this aversion is unquestionably a sound one. It consists in the feeling that monopoly renders possible commercial exploitation, which increases the cost of the article to the consumer disproportionately to the cost of production, while among medical men the word "patent" arouses the repellant idea of the so-called, but misnamed "patent medicine." That notorious abuse is, of course, not patented and should correctly be designated the "proprietary medicine." If existing proprietary medicines were patented (and of course the vast majority, being merely recipes, would not be patentable) their most undesirable feature, that of secrecy, would be at once removed, since, in Great Britain and America at least, the issuance of letters patent is the completest and most accessible form of publication possible. As regards the objection to the feature of monopoly, it is to be recollected that letters patent are only one and not the most efficient among many methods of securing monopoly, and it may be questioned whether the non-issuance of patents would in any important degree lessen the average cost of medical articles to the ultimate consumer. It is however to be admitted that the possibility of outrageous extortion from the public does exist and has occasionally been realized in practice. In the subjoined agreement it is, however, provided (subdivision *a*) that the Regents of the University of California undertake to utilize the rights granted to them in such a manner as will in their judgment best produce a monetary return and at the same time render the use of the preparation patented most generally available

for the benefit of the human race. The Regents of the University are thus clearly authorized, in event of their considering it to be desirable in the interest of availability of the preparation for the benefit of humanity, deliberately to sacrifice monetary advantage, and, the element of personal interest being entirely excluded, the public has the fullest procurable guarantee that they would, if occasion arose, take such action.

In subdivision (b) are contained clauses which provide for the reimbursement and "conditional insurance" of the donor. In this particular instance the reimbursement is confined to the repayment of actual expenses incurred, but in many other instances it might very properly consist in a sharing of profits, either expressed as a lien consisting of a cash sum or of a definite sum per annum, or as a percentage of the proceeds, or geographically, the patent rights in certain countries or localities being retained by the donor. The "conditional insurance" clause is inserted to forestall the obvious injustice which might arise were the surviving family of the donor to find themselves in actual need while the University might at that moment be reaping large returns from his discoveries. If, however, the University were to be compelled from the beginning to accumulate a fund to cover this contingency, the result might be, at least for a considerable term of years, to completely stultify the gift and the purposes of the donor. In order to neutralize this it is therefore provided that the University shall not be required to make any provision for this purpose in advance of the actual event of the death or disability of the donor, and the claims of his survivors only shall become operative at the moment of his death.

In subdivision (c) are included certain individual preference clauses which, collectively considered, must form an essential and very valuable part of any widely acceptable plan of this nature. In the first place the donor expresses his preference that the proceeds be expended in the furtherance of research on the physiology, pathology and chemistry

of growth. This is expressed merely as a preference, however, and is not mandatory. It is merely equivalent to a consistent vote in a certain direction which may, if necessary or advisable, be outweighed by a majority of the votes of the board. It is felt by the writer that the expression of such preference in each and every case of the kind will help automatically to adjust the material resources of the different fields of scientific investigation to their current needs. The donor is usually likely to desire that the proceeds be appropriated to the support of a field of investigation which he considers to be, at that time, lacking in sufficient material support. Such preferences should not be rendered mandatory, however, for the reason that the condition which the donor seeks to rectify may turn out to be only temporary, or the intrinsic importance of the field may ultimately prove to be insufficient to warrant the expenditure of the entire proceeds upon it.

The donor also expresses his preference regarding the locality in which a proportion of the proceeds should be expended. This arises from his conviction that the welfare of scientific investigation as a whole demands the widest possible distribution of the facilities for conducting practical investigation.³ At the present time in New York, London, Paris or Berlin the young man who has capability for original investigation has every opportunity of acquiring facilities for his work and of gaining inspiration from the example of investigations proceeding to a successful issue in his own vicinity and under his own observation. He sees in actual operation the methods of work adopted by masters of his subject, and examples and opportunity alike combine to make the path easy to his chosen career. But what shall we say of the opportunities of the young man or woman in Siberia, China, Australasia, South America or Africa? In certain localities in these countries every necessary institution exists for providing the essential preliminary training of the investigator, but, training in the funda-

³ "The Strategies of Scientific Investigation," *Scientific Monthly*, December, 1916, p. 547.

mentals of his subject secured, where is he now to turn for the living example of the successful experimental investigator or for the opportunities of a large and abundantly equipped laboratory, partly or wholly devoted to research? The bare possibility of creating fresh fields of knowledge will probably never even occur to him, since he has never seen or been stimulated to imagine investigation conducted on a broad and practical scale. As a means of tapping new sources of talent for investigation a centripetal disposal of investigators and the opportunities for investigation has become a paramount necessity. The fact that the donor received his fundamental training in Australia determined the preference which he has expressed. It is not rendered mandatory, however, for the reason that it is not clear that the opportunity so to dispose of the proceeds in this particular instance will ever arise, or if it did arise, whether unforeseen political or other events might not, at some time in the future, render this disposal of the proceeds inadvisable.

In conclusion, although the plan incorporated in this agreement is applicable to any and all completely developed patentable discoveries which may be made by the employees of learned institutions, the board of directors herein created confines its functions to the administration of *medical* research. It was felt that it would be impossible to choose a board commanding the confidence of investigators in all the various fields of scientific research without making up the personnel by ex-officio appointments, as the dean of this or the professor of that particular college or subject, and thus introducing the very atmosphere of bureauocracy and officialism which it was sought to avoid. In event of this precedent being at all extensively copied it will obviously be necessary, for universities at all events, to establish three or four separate foundations and a like number of boards of scientific directors.

The text of the agreement follows:-

(Signed)

T. BRAILSFORD ROBERTSON.

TEXT OF THE AGREEMENT

THIS INDENTURE, made this 7th day of September, 1917, between T. B. Robertson, the party of the first part, and THE REGENTS OF THE UNIVERSITY OF CALIFORNIA, a corporation, the party of the second part,

WITNESSETH:

WHEREAS the party of the first part is the discoverer of a medical preparation named Tethelin, covered by United States and British patents, and is the owner of such preparation and of such patents and of the trade-name "Tethelin," NOW THEREFORE, IT IS AGREED AS FOLLOWS:

I.

The party of the first part hereby conveys and grants to the party of the second part the said preparation, patents and trade-name, and all his rights as the discoverer of said preparation and the owner thereof and of said patents and trade-name, upon the following trust, to-wit:

(a) To utilise the rights hereby granted in such a manner as in the judgment of the party of the second part will best produce a monetary return therefrom and at the same time render the use of such preparation most generally available for the benefit of the human race. The party of the second part shall have the right to sell or dispose in any other manner of said rights or any of them, in whole or in part, or to grant subsidiary rights and privileges thereunder, either upon royalties or otherwise. The party of the second part agrees that it will use all reasonable diligence to utilise said rights as aforesaid, but it is particularly agreed, and the party of the second part accepts said trust only upon the condition, that it shall be the sole judge as to what is reasonable diligence in the respect mentioned, and that it shall not be pecuniarily or legally responsible for any want of diligence in such respect unless the same be in bad faith or the equivalent of bad faith, and that in view of the fact that the party of the second part is a public eleemosynary corporation all of whose funds are held upon other trusts, the party of the second part shall not be pecuniarily or legally liable under any circumstances whatsoever except to the extent of such rights or the proceeds, profits or returns thereof at the time of recovery against it in the hands of the party of the second part:

(b) To apply any proceeds, profits or returns from the utilization of said rights, after paying the expenses of the party of the second part in connection with the trust, to the reimbursement of the party of the first part in the sum of one thousand dollars

(\$1000) for expenses incurred by him in making such discovery of such preparation, and, in case of his disability, to the payment to him thereafter for his life of the sum of five thousand dollars (\$5000) annually, and in case of his death to the payment of a like amount to his wife for her life, and in case of the death of both himself and his wife leaving a minor child or children, to the payment of a like amount to such child or children until such child or the youngest of such children shall have reached majority; provided, however, that such annuities shall each year be payable only out of such proceeds, profits or returns as may come in during that year and any balance on hand at the beginning of the year unexpended and unappropriated for the purposes mentioned in the following subdivision (subdivision *c*):

(*c*) To apply any unexpended balance of such proceeds, profits or returns to research work in Medicine and preferably in the Physiology, Chemistry and Pathology of Growth either under the auspices of the University of California or otherwise, it being the wish of the party of the first part, but not a condition, that in case such proceeds, profits or returns amount to a sum sufficient to justify it, such research work be conducted in part in Australia, either under the auspices of some institution of learning there or otherwise. The party of the second part shall direct such research work in consultation with the men hereafter named as the first members of the board of directors of the Institute of Medical Research whose creation is hereinafter provided for and their successors. The party of the second part shall have the right, subject to the provisions of subdivisions (*a*) and (*b*) preceding, to expend such proceeds, profits or returns on such research work either in whole or in part, holding and investing such accumulation as a fund and expending the income of such fund in the maintenance of research work;

PROVIDED, however, that in case at any time such proceeds, profits or returns are sufficient in the judgment of the party of the second part to justify it, it shall create an Institute of Medical Research which shall, under the immediate direction of a board of directors of five members subject to the supervisory control of the party of the second part, carry on and direct the work of research mentioned. Such Institute, if created, shall also be authorized to conduct other kindred lines of research with funds received or appropriated by the party of the second part for that purpose from other sources, and particularly from the utilization of other discoveries transferred by the discoverers to the party of the second part, provided that in case of conveyance to or acquisition by the party of the second part of other discoveries or patents or rights

from which and from the discovery, patents and rights hereby conveyed, come proceeds which are joint to both, the party of the second part shall be the sole judge as to the relative proportion of such joint proceeds as are attributable to each of the joint sources thereof. Such board of directors shall in the first instance be composed of F. P. Gay, H. M. Evans, C. H. Whipple, C. L. A. Schmidt, and the party of the first part. Any vacancy in said board shall be filled on the nomination of the remaining members approved by the party of the second part. The directors shall be persons themselves engaged directly and primarily in research work either of the character mentioned or of some kindred character, and upon their ceasing to be so engaged they shall be under obligation to resign as such directors, and if they do not resign their positions shall be declared vacant by the party of the second part and upon such declaration shall be vacant. The position of any director shall become vacant upon his attaining the age of sixty (60) years unless the party of the second part shall, for strong reason existing in the particular case, extend his term of office.

II.

The party of the second part accepts the foregoing grant and conveyance upon the trust above set out.

IN WITNESS WHEREOF the party of the first part has hereunto signed his name and the party of the second part has by its officers thereunto duly authorized hereunto signed its corporate name and affixed its corporate seal all on the day and year first above written.

(Signed)

T. BRAILSFORD ROBERTSON.

THE REGENTS OF THE UNIVERSITY
OF CALIFORNIA.

By WM. D. STEPHENS, Governor of the State
of California, and ex-officio President of
the Regents of the University of California.

By V. H. HENDERSON, Secretary of the Regents
of the University of California.